

What is claimed is:

1. An apparatus for sensing tampering with an electrical device contained within a housing including first and second enclosure members comprising:
  - an electrically conductive connector element extending from said first enclosure member and secured to said second enclosure member to wholly enclose said electrical device;
  - a conductive layer on the surface of said second enclosure member that electrically contacts said electrically conductive connector element when the latter is connected to said second enclosure member; and
  - a tampering sensing circuit which engages said electrically conductive connector element and signals the occurrence of tampering when said electrically conductive connector element is disengaged from said second enclosure member.
2. The apparatus for sensing tampering of claim 1 wherein said electrically conductive connector element is a metal screw that is received in a threaded opening in said second enclosure member.
3. The apparatus for sensing tampering of claim 2 wherein said conductive layer is connected to the ground potential of said electrical device; said metal screw is connected to said tamper sensing circuit; and said tamper sensing circuit includes an output node that is maintained at said ground potential of said electrical device when said screw is electrically connected to said conductive layer.
4. The apparatus for sensing tampering of claim 3 wherein said tamper sensing circuit is further connected to a first electrical potential which causes said output node to approach said first electrical potential when the connection to said ground potential of said electrical device is interrupted by withdrawing said screw from said second enclosure member.

5. The apparatus for sensing tampering of claim 4 wherein said first and second enclosure members include marginal flanges extending in the direction of the axis of said screw which overlap in the assembled condition to align and position the enclosure members with respect to each other, the overlapping length of said marginal flanges being greater than the length of said screw received in said second enclosure member threaded opening, whereby the connection of said tamper sensing circuit to said electrical device ground potential is interrupted before said first and second enclosure members separate sufficiently to permit access to said electrical device.

6. In an electrical device, including a tamper sensing circuit with an output node, contained within first and second enclosure members which are secured together by a screw which extends from said first enclosure member and engages said second enclosure member, a tamper sensing method comprising:

- maintaining said tamper sensing circuit output node at a first electrical potential by connecting said output node to said first electrical potential through a current path extending serially through said screw;

- providing a second electrical potential source to said tamper sensing circuit; and

- establishing said second electrical potential at said tamper sensing circuit output node when said screw is disengaged from said second enclosure member.

7 The tamper sensing method of claim 6 wherein said step of maintaining said tamper sensing circuit output node at a first electrical potential comprises maintaining said node at the circuit ground potential of said electrical device.

8. In an electrical device including first and second enclosure members which surround and enclose the electrical circuitry of said device when secured together by a conductive connector which extends from said first enclosure member and is secured to said second enclosure member, a tamper sensing circuit comprising:

- an output node;

a first electrical potential connected to said output node by a circuit extending serially through said conductive connector member when said conductive connector is secured to said second enclosure member and is interrupted when said conductive connector is disengaged from said second enclosure member; and

a second electrical potential connected to said output node and effective to establish said second electrical potential at said output node when said connection of said first electrical potential to said output node is interrupted by disengagement of said conductive connector from said second enclosure member.

9. The electrical device tamper sensing circuit of claim 8 wherein said conductive connector is a metal screw extending from said first enclosure member and received in a threaded opening in said second enclosure member.

10. The electrical device tamper sensing circuit of claim 9 wherein said electrical device electrical circuitry includes a printed circuit (PC) board on which said output node is mounted and an aperture through which said screw passes when extending from said first enclosure member to said second enclosure member and further comprises connector means mounted on said PC board which is connected to said output node and resiliently engages said screw extending through said PC board aperture.

11. The electrical device tamper sensing circuit of claim 10 wherein said first electrical potential is the PC board circuit ground and said tamper sensing circuit further comprises a conductive path secured to the inner surface of said second enclosure member which extends from said threaded opening, where it electrically connects to said screw when such screw is secured in said threaded opening, to a connector element which interconnects said conductive path with the PC board circuit ground.

12. The electrical device tamper sensing circuit of claim 11 further comprising a resilient annular member with a continuous outer portion and radially inwardly extending integral fingers

having distal ends defining an opening with a diameter smaller than the diameter of said screw, whereby, with the outer annular portion soldered to said PC board surrounding said aperture, said integral fingers are deflected by and engage said screw when said screw extends through said aperture.